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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,710	08/24/2001	Tetsuya Kojima	Q65933	9664

7590 03/26/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

DEBERADINIS, ROBERT L

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,710

Applicant(s)

TETSUYA KOJIMA et al.

Examiner

Robert L. DeBeradinis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 24, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Aug 24, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over FOREMAN 5,521,444 in view of CORCORAN 5,031,992.

Regarding claims 1, 3, 4, 11.

FOREMAN discloses a rotary contactless connector comprising:

a rotary transformer (80, column 6, lines 35-36) composed of a rotor that has a transformer rotary winding (12) and an annular stator that is concentric with the rotor (figure 2) and has a transformer stator winding (10);

a power output of the rotary transformer (80) is divided into two outputs, one being directly coupled to the electric circuit (70), while the other being coupled to the electrical circuit through the intermediary of storage means composed of a capacitor or a storage cell (column 6, lines 19-68, storage means are obvious elements of a dc supply).

FOREMAN does not disclose:

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a rotating-side emitting element or a rotating-side light receiving element provided on the rotor; and
a stationary-side light emitting element or a stationary-side light receiving element that is fixedly disposed to oppose the rotating-side light emitting element or the rotating-side light receiving element,
wherein electric power is supplied to the rotor through the rotor transformer to perform optical communication.

CORCORAN discloses:

a rotating-side emitting element (12) or a rotating-side light receiving element provided on the rotor (figure 1); and
a stationary-side light emitting element or a stationary-side light receiving element (15) that is fixedly disposed to oppose the rotating-side light emitting element or the rotating-side light receiving element (figure).

It would have been obvious to one having ordinary skill in the art at the time of this invention to provide a source of power to the rotating side of the coupling wherein electric power is supplied to the rotor through the rotor transformer to perform optical communication to provide a contactless connection to the stationary power source.

Regarding claim 5.

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FOREMAN in view of CORCORAN disclose a rotary contactless connector according to claim 1, wherein the rotating-side light emitting element or the rotating-side light receiving element is provided at the central position of the rotor (CORCORAN, figure 1).

Regarding claims 6, 7.

FOREMAN in view of CORCORAN disclose a rotary contactless connector according to claim 1, wherein a plurality of the rotating-side light emitting elements or the rotating-side light receiving elements are provided at the concentric circumferential positions other than the central position of the rotor (CORCORAN, figure 2, sources). Regarding claim 7 see CORCORAN Column 8, lines 10-20.

Regarding claim 8.

FOREMAN in view of CORCORAN disclose a rotary contactless connector according to claim 1.

FOREMAN in view of CORCORAN do not discloses wherein a plurality of elements are provided in the radial direction of the rotor.

CORCORAN discloses wherein a plurality of elements are provided in circumferential direction of the rotor.

It would have been obvious to one having ordinary skill in the art at the time of this invention to merely orientate the elements from a circumferential direction to a radial direction to adapt to the mechanical configuration required for the contactless connector.

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Regarding claim 9.

FOREMAN in view of CORCORAN disclose a rotary contactless connector according to claim 5.

CORCORAN discloses wherein a plurality of elements are provided in circumferential direction of the rotor.

It would have been obvious to one having ordinary skill in the art at the time of this invention to merely orientate the elements from a circumferential direction to a radial direction to adapt to the mechanical configuration required for the contactless connector.

Regarding claim 10.

FOREMAN in view of CORCORAN disclose contactless connector. The fact that the connector disclosed has the capability to rotate, the connector is a non-rotary contactless connector when it is not rotating. Refer to claim 1 rejection.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over FOREMAN 5,521,444 in view of CORCORAN 5,031,992 in further view of EVERINGHAM 5,811,898.

Regarding claim 2.

FOREMAN in view of CORCORAN disclose a rotary contactless connector according to claim 1.

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FOREMAN in view of CORCORAN do not disclose wherein a nonmagnetic and non-magnetized bearing is provided between the rotor and the annular stator.

EVERINGHAM discloses non-magnetic bearing members that are concentrically mounted on opposite axial end portions of stator (column 2, lines 33-37).

It would have been obvious to one having ordinary skill in the art at the time of this invention to provide bearings wherein a nonmagnetic and non-magnetized bearing is provided between the rotor and the annular stator to reduce the magnetic torque changes due to the magnetic field coupling.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (703) 306-5857. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on (703) 308-3119. The fax phone number for this Group is (703) 308-7722.

RLD

MARCH 13, 2003

